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Worldwide Report

TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

No. 184

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LAOTIAN SATELLITE STATION DESCRIBED

BK170832 Moscow Radio in Lao to Laos 1130 GMT 16 Sep 81

[Report from Vientiane by an IZVESTIYA correspondent]

[Text] In the past few days, I visited a construction site in the outskirt of Vientiane capital, at which a communications satellite station is being built. This satellite station is very important because it will allow Laos to become more far-sighted. With the (Antech-Sputnik) system, the satellite relay station will greatly facilitate worldwide news communications for Laos as well as telephone, telegraphic and telecommunications links with the outside world. Laos will be able to communicate rapidly with the other socialist countries. The 12 channel station will allow Laos to set up communications with other Southeast Asian nations. Through a more powerful relay station in Moscow, Laos will be able to set up broader contacts with other European countries. Programs transmitted by the Moscow Television Network will be telecast live in Laos through this station, and programs can also be transmitted live from the Vientiane television studio in Moscow. As a member of the (Antech-Sputnik) system, Laos is capable of developing its own television network. A technical school in Vientiane is now training the first group of television technicians, producers, programmers and announcers for this network. A number of Lao students are also undergoing training programs in the Soviet Union to become future radio and television technicians and engineers for this satellite station.

Fifteen young Lao engineers and technicians are now cooperating with their Soviet counterparts in constructing this station. These Soviet specialists have given practical training in television technology to their Lao colleagues. I met with a young Lao technician at the construction site. (Mou Sivo), chief of the Lao technicians, warmly greeted our party and accompanied us on a tour of the construction site. Construction workers at the site pledged that they would try to complete the project soon so that the station will be able to receive messages transmitted from Moscow by 7 November, and that the construction will be completed totally by 2 December this year so as to welcome the sixth anniversary of the LPDR founding and to make the Lao revolutionary day the most memorable occasion. (Mou Sivo) said that: I am very happy to work beside our Soviet friends because their rich experience and knowledge have enabled us to rapidly master our new assignments. (Mou Sivo) is a native of Luang Prabang. He was barely 15 when he joined the Lao revolution to fight for the independence and freedom of his own fatherland. He was subsequently sent to an engineering school in Vientiane for 4 years, and assigned to various agricultural cooperative construction sites. He is now studying new technology in erecting television antennas which are as high as 108 meters on a mountain top near the satellite relay station. From this antenna field, visitors can enjoy the spectacular panoramic views of Vientiane City and its outskirts as well as the Mekong River below. This antenna field will serve as the television eye for Laos so that the Lao people will be able to see every corner of the world. (Mou Sivo) who was standing beside me looked into the sky with his bright eyes. He must have been seeing several distant countries, his native town of Luang Prabang which he left 8 years ago, and the city of Moscow where he wants very much to continue his studies and which he had seen recently on a television program transmitted directly from that city of Vientiane. Before we bade him farewell, (Mou Sivo) told us that: I will continue to work at this station. I want to become a specialist so that I can erect similar television antennas in every corner of Laos so as to allow the Lao people to see all the things in the world.

We wish him good luck and success in his dream.

CSO: 5500/2312

AUSTRALIA

GOVERNMENT POLICY, LACK OF FUNDS THREATEN COMPUTER INDUSTRY

Canberra THE AUSTRALIAN in English 25 Aug 81 p 28

[Article by Nicholas Rothwell]

[Text] AUSTRALIA is well behind other advanced countries in its computer industry, according to one of the nation's leading computer scientists.

Professor John Bennett of Sydney University's Department of Computer Science has prepared a detailed examination of our computer industry, of trends in corporate and academic research and of Government policy.

He concludes that Australia's position as a developing high technology centre is threatened because of the failure of the financial establishment to provide venture capital for local innovators.

His work forms part of the study of technological change prepared for last week's Information Technology Week sponsored by the Department of Science and Technology and the Australian Computer Society.

In a sweeping overview, Professor Bennett examines the computer industry, which provides jobs for 80,000 people and supports a host of subsidiary service industries, before providing a set of policy recommendations for the future.

He estimates spending on computers is running at more than $1500 million annually, or 1.5 per cent of the national GNP — but even so, "our level of computerisation does not compare well with that of other technologically advanced countries".

Australia ranks at the bottom of the list of all OECD nations when comparisons are made on the basis of the number of computers per head or per dollar of GNP.

Professor Bennett points out computer technology has acted as one of the basic driving forces in boosting industrial growth, and areas of technology such as microprocessors, shared computer networks, and networked databases are likely to continue this trend in the next decade.

"Access to large and up-to-date databases is likely to have considerable impact on the way in which industry goes about problem-solving," he says.

The social effects of the introduction of computers are commonly raised as a reason for delaying the full-scale introduction of new technology, but Professor Bennett shows the percentage of clerical workers — those who would be retrenched if computers were, in fact, putting people out of work — among the unemployed has stayed constant in recent years.

This is put down to a change in the structure of the workforce, as clerical workers take on a more dominant role (at a rate of increase 2 per cent above that of the rest of the workforce) and society's need for information grows.

But Professor Bennett suggests we may be close to the time when the efficiency of the computer counteracts the job opportunities created by the expansion of the information sector.

"The imposition of manpower ceilings on Commonwealth Government departments will certainly accelerate the computerisation process," he says.

NATIONAL POLICY

Computers have had major effects on society as the introductions of word processors and of automated techniques in industry have progressed, but Professor Bennett considers that declining trends in manufacturing employment will continue regardless of automation, because of economic factors.

He quotes figures which show a reduced working week will not result in a great improvement in employment levels, and suggests an expanded service sector of the economy could not provide enough jobs to counter any serious structural changes caused by increased use of computers and automated techniques.

Dr Bennett calls for a different approach to the problem — a concerted national policy to implement technological change, so some technology independence can be achieved on a competitive basis with other western countries, against which Australia has been steadily losing ground.

He points out the efforts of our funding bodies have not been well co-ordinated and their total spending is "miniscule" given the nation's total computer import bill of $400 million annually.

He also argues that:—

- COMMONWEALTH Government preference for local content in high technology goods is often frustrated by transfer pricing, in which the cost of imported items is marked down to give an artificially high level to local content, with the mark-down being transferred to the parent comapny abroad as profit.

- THE offsets program intended to improve Australian industry's high technology skills has been broadened too far, with the result that offset credits can be obtained for too wide a range of products.

"The clearest case for a strong move to encourage Australian innovation and local computer hardware manufacture, at least of selected components and microprocessors, is to compare our import-export ratio for computers with that of other developed countries," he says.

- AUSTRALIAN computer companies have not been able to raise sufficient venture capital to honor their contracts and develop their products without losing financial control of their affairs.

This "financial conservatism" which had forced them to move abroad or to close down was in marked contrast to the heavy backing given computer ventures in other nations.

In Britain, Canada and Japan, the introduction of computers and robots into the private sector had been stimulated by concerted Government policy, involving research and forecasting.

"The Commonwealth and State Governments could well follow a similar policy here. It would ensure new skills are brought to the notice of in-house personnel more readily, and enable savings to be made more readily in times of economic cut-back.

SKILL TRANSFER

"It would also facilitate the transfer of skills acquired on major government contracts to the private sector and vice versa, and be consistent with the philosophy of constraining the growth of the public service," Professor Bennett says.

Failure to make improvements in Australia's computer technology would cause our standards of living to lag behind those of other countries, and while changes would alter the structure of the workforce, confrontations and redundancies were not neccesary developments.

But planning at a national level was essential to help industry automate, monitor the effects of change, provide guidelines and cushion the effects of the switch-over through retraining schemes.

Profesor Bennett also called for a National Computer Centre to be set up to complement the activities of computer consultants, so the small businesses — whose use of new techniques would determine the standing of the nation in the switch to new technologies — could have direct access to the latest information.

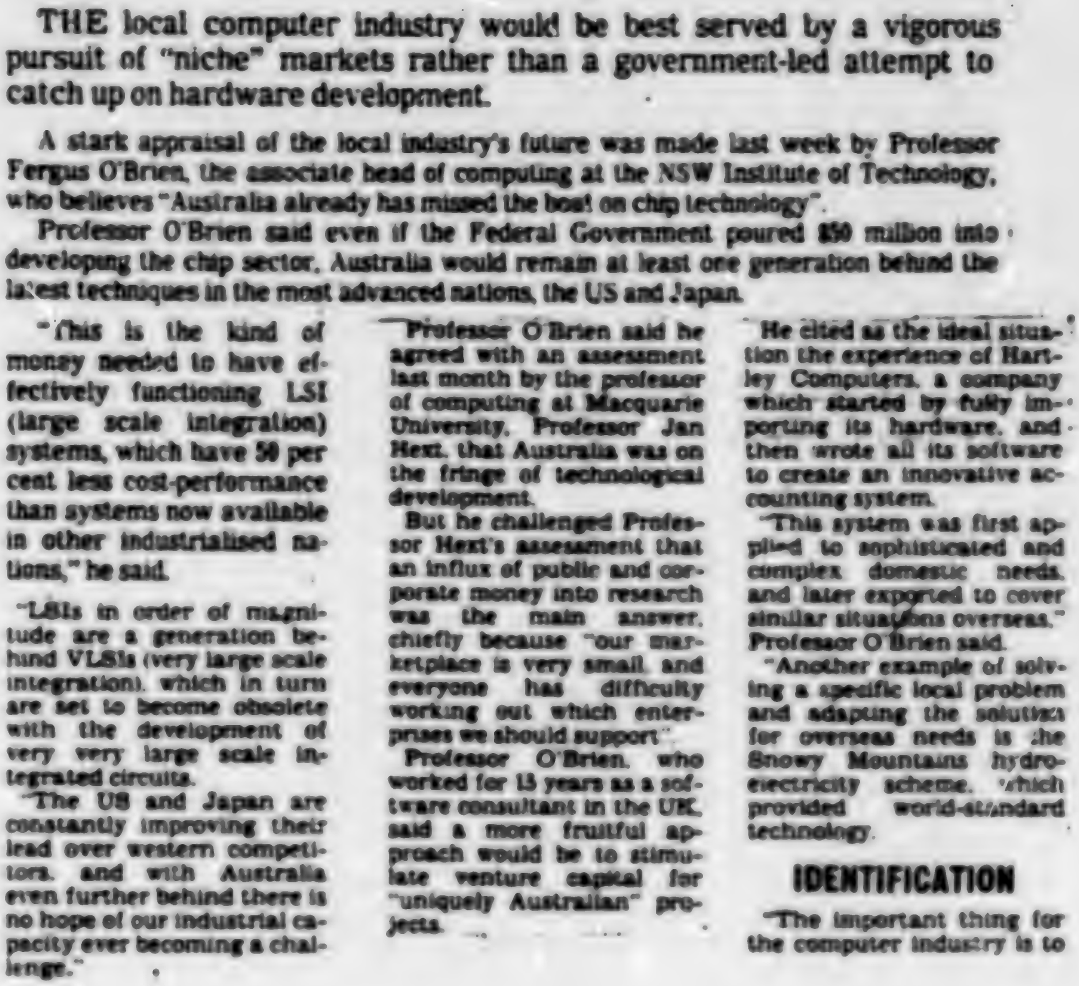
CSO: 5500/7548

LOCAL COMPUTER INDUSTRY TOO LATE FOR CHIP MARKET DRIVE

Canberra THE AUSTRALIAN in English 11 Aug 81 p 17

[Article by Michael Pollak]

[Text]



THE local computer industry would be best served by a vigorous pursuit of "niche" markets rather than a government-led attempt to catch up on hardware development.

A stark appraisal of the local industry's future was made last week by Professor Fergus O'Brien, the associate head of computing at the NSW Institute of Technology, who believes "Australia already has missed the boat on chip technology".

Professor O'Brien said even if the Federal Government poured $50 million into developing the chip sector, Australia would remain at least one generation behind the latest techniques in the most advanced nations, the US and Japan.

"This is the kind of money needed to have effectively functioning LSI (large scale integration) systems, which have 50 per cent less cost-performance than systems now available in other industrialised nations," he said.

"LSIs in order of magnitude are a generation behind VLSIs (very large scale integration), which in turn are set to become obsolete with the development of very very large scale integrated circuits.

"The US and Japan are constantly improving their lead over western competitors, and with Australia even further behind there is no hope of our industrial capacity ever becoming a challenge."

Professor O'Brien said he agreed with an assessment last month by the professor of computing at Macquarie University, Professor Jan Hext, that Australia was on the fringe of technological development.

But he challenged Professor Hext's assesament that an influx of public and corporate money into research was the main answer, chiefly because "our marketplace is very small, and everyone has difficulty working out which enterprises we should support".

Professor O'Brien, who worked for 15 years as a software consultant in the UK, said a more fruitful approach would be to stimulate venture capital for "uniquely Australian" projects.

He cited as the ideal situation the experience of Hartley Computers, a company which started by fully importing its hardware, and then wrote all its software to create an innovative accounting system.

"This system was first applied to sophisticated and complex domestic needs, and later exported to cover similar situations overseas," Professor O'Brien said.

"Another example of solving a specific local problem and adapting the solution for overseas needs is the Snowy Mountains hydro-electricity scheme, which provided world-standard technology.

IDENTIFICATION

"The important thing for the computer industry is to identify problem areas specific to the Australian environment, and then try to find solutions which can be applied within a recognised and viable marketplace."

Professor O'Brien said overseas experience had shown that entrepreneurs in the computing industry faced the same risks and pitfalls as in any other enterprise, with the exception that "in computers, things move fast".

A principal area in which computer entrepreneurs could boost the industry was communications because, according to Professor O'Brien, "Australia is a series of islands with not very good links".

Professor O'Brien, whose British company Scicon had been the first software consultancy in Europe, analysed the present Australian situation thus: "The nation is sparsely populated, with problems of control and transportation which in turn lead to high costs of marketing.

"For example, because three million of Australia's 14 million people live in Sydney, marketing of a product tends to be concentrated in the early stages just in that city.

"Everything seems to be geared against diversification into new areas — different States have different laws, and attitudes of mind often are a hindrance to conquering the tyranny of distance.

"It is here that the niche market concept becomes important, whereby specific problem-solving computer technology can overcome the seemingly insoluble hindrances to many enterprises."

Professor O'Brien said because Australia was a place of such vast distances, technology had to be developed to make communications "independent of distance".

"Because of the high cost of STD calls and the often prohibitive price of interstate jet travel, it is becoming increasingly desirable to replace face-to-face communications with terminal-to-terminal conversation," he said.

"CSR is only one major company which has installed separate computers in each division throughout the country to allow direct communications.

"This move was spurred by the horrendous Telecom bills CSR and like-sized companies have been incurring.

"In this context it must again be stressed that computer developments of this kind are the result of market pressures such as increased costs and the need for rationalisation."

Professor O'Brien, who was brought to Australia in 1976 by the software arm of international group PA Consulting Services, said rationalisation was the key to effective industrial development, a trend exemplified in US communications planning recently.

His local experience includes opening the Canberra office of Pacom Australia in 1977 and he was involved in talks for introducing the company's systems within the Australian Bureau of Statistics.

Relating recent overseas developments to the Australian environment, he cited the case of FM radio in America, where unused sections of a radio band were being used by retail stores for digital transmission, for example from a central purchasing department to scattered supermarkets.

Professor O'Brien was quite explicit in enunciating the scope of such activities: "In the US, a company was launched within a year to provide a digital transmission service for retail chains, and its profitability is such that the investment yield for backers such as banks is better than that of groups which had raised money to drill for oil."

CSO: 5500/7548

FRENCH OFFER TECHNOLOGY IN BID FOR SATELLITE CONTRACT

Canberra THE AUSTRALIAN in English 14 Aug 81 p 1

[Article by Jane Ford]

[Text] A FRENCH aerospace company is to transfer a large slice of space technology to a huge research project in Canberra in an attempt to secure the contract for Australia's domestic satellite.

This is seen as the first step in establishing an Australian space industry and could eventually give the country the capability to build its own communications satellites and develop related technology.

The move will also give a big boost to Starlab, a joint project between Canada, the US and Australia to build a space telescope, to be launched aboard America's space shuttle in 1989.

At present Australia's participation in the project is in the balance awaiting a decision on funding in next week's Federal Budget.

The Starlab project alone would have a multi-million-dollar spin-off to the nation's defence, optical, electronic and aerospace industries but coupled with advanced space know-how it could form the basis of a new high-technology industry and lead to the establishment of an Australian space agency.

SA Matra, Europe's leading space company and a partner with British Aerospace in the joint venture company Satcom International, is one of 20 groups which have tendered for the domestic satellite.

In the next few weeks it plans to sign an agreement with the Australian National University guaranteeing to transfer the technology and to collaborate in designing Starlab's instrument package.

The package is the main element in the space telescope. Engineers and scientists from Mt Stromlo and Siding Springs observatories have developed a low light detecting device, known as a large-format photon-counting array, which is central to its development.

The technology transfer from Matra and its collaboration in developing the detector will allow the present ground-based detector system to be upgraded.

A feature of the memorandum of understanding to be signed between Matra and the university is the French company's undertaking to transfer technology to Australian companies so that the Starlab instrument package can be built in this country and the technology used to develop an Australian space and satellite capability.

Matra's move is part of a wider attempt by the company to gain credits under the Department of Industry and Commerce's offsets program, which can be used for future space technology projects in Australia. Later this year the company plans to set up an Australian office to act as a base for its operations.

ENTHUSED

The head of Matra's space instrumentation group, Mr Armand Peraldi, and a space engineer, Mr Claude Gricourt, visited Mt Stromlo in June for talks with the director of the Mt Stromlo and Siding Springs observatories, Professor Don Mathewson.

This week Mt Stromlo's chief electronics engineer, Mr Ted Stapanski, returned from a four-week visit to Matra's Toulouse plant where he has worked with five of the company's space engineers on a preliminary design and development report for Starlab's instrument package.

This is now in the hands of Professor Mathewson.

Much now depends on the Budget decision on Starlab funding. The team has asked for an initial $104,000 this year for the feasibility study and a total of $24 million over the next eight years for the entire project.

CSO: 5500/7548

IMPORT OF TECHNOLOGY SEEN AS THREAT TO NATIONAL SECURITY

Melbourne THE AGE in English 17 Aug 81 p 3

[Text] Australia's increasing dependence on imported technology, especially computers, could threaten national security, according to the Governor-General, Sir Zelman Cowen.

"Australia is rapidly becoming totally dependent on imports for the supply of its information technology. The situation is said to exist where it is either economically or technically essential for some sub-assemblies to be repaired overseas," Sir Zelman said.

This dependence could threaten our security, our industries and welfare if supply is disrupted in the event of an international crisis.

"A Swedish Government report examines some aspects of vulnerability. There is a threat of acts of war: capture the computer centres, says the report, and you capture the society which depends on them".

Supply could also be disrupted by acts of terrorism, and there were natural risks, such as disasters or accidents, Sir Zelman said.

He made his comments in the introduction to a book expected to be published this week, 'Technological change — impact of information technology 1981'. He said a computerised society such as Australia, heavily dependent on imported technology, could automatically become vulnerable in case of international crises.

"The 1960s and 1970s in Australia saw advanced technology become a major import. This type of import could well become Australia's largest in the decade of the 1980s unless concrete steps are taken very soon," Sir Zelman said.

Australia would soon reach the stage where information technology would become a major tool in the further development and maintenance of our industries.

"As a society becomes increasingly dependent in its public and private operations on computers, those concerns assume increasing importance."

The Australian public service is the latest single user of computers.

Typical uses include statistical processing, revenue collection, and law enforcement functions, while the nation's complex defence supply system is controlled by a large central computer system in Canberra.

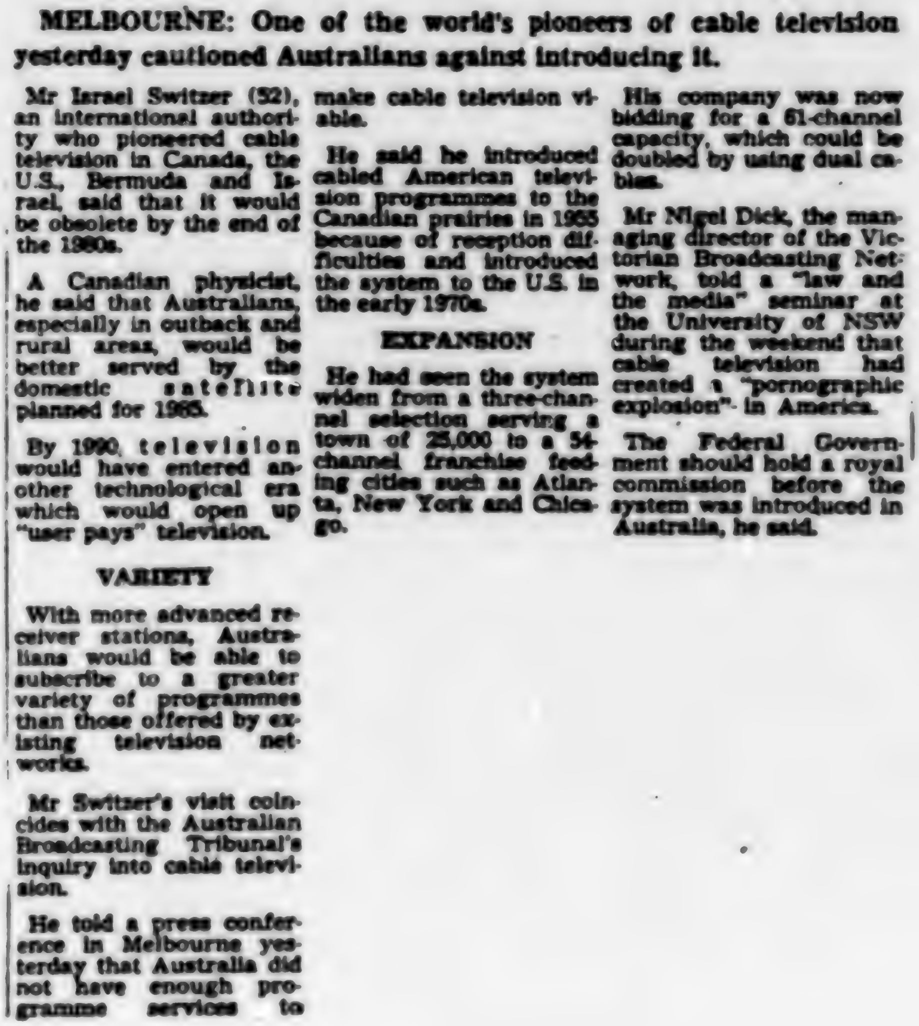
The book, to which several other prominent Australians have contributed, is being launched to coincide with the third annual Information Technology Week.

CSO: 5500/7548

EXPERT SAYS CABLE TV IS NOT BEST OPTION FOR AUSTRALIA

Perth THE WEST AUSTRALIAN in English 24 Aug 81 p 16

[Text]



MELBOURNE: One of the world's pioneers of cable television yesterday cautioned Australians against introducing it.

Mr Israel Switzer (52), an international authority who pioneered cable television in Canada, the U.S., Bermuda and Israel, said that it would be obsolete by the end of the 1980s.

A Canadian physicist, he said that Australians, especially in outback and rural areas, would be better served by the domestic satellite planned for 1985.

By 1990, television would have entered another technological era which would open up "user pays" television.

VARIETY

With more advanced receiver stations, Australians would be able to subscribe to a greater variety of programmes than those offered by existing television networks.

Mr Switzer's visit coincides with the Australian Broadcasting Tribunal's inquiry into cable television.

He told a press conference in Melbourne yesterday that Australia did not have enough programme services to make cable television viable.

He said he introduced cabled American television programmes to the Canadian prairies in 1955 because of reception difficulties and introduced the system to the U.S. in the early 1970s.

EXPANSION

He had seen the system widen from a three-channel selection serving a town of 25,000 to a 54-channel franchise feeding cities such as Atlanta, New York and Chicago.

His company was now bidding for a 61-channel capacity, which could be doubled by using dual cables.

Mr Nigel Dick, the managing director of the Victorian Broadcasting Network, told a "law and the media" seminar at the University of NSW during the weekend that cable television had created a "pornographic explosion" in America.

The Federal Government should hold a royal commission before the system was introduced in Australia, he said.

CSO: 5500/7548

BRIEFS

MALTA SATELLITE LINK—Ethnic radio 3EA linked Australia and Malta by satellite for the first time last Sunday. The two-hour broadcast, which took three months to plan, marked the feast of St Gaetan, patron saint of Hamrun, a large town which was celebrating its centenary as a parish. Dr Joe Abela, 3EA's co-ordinator of the Maltese language group, said Melbourne's 86,000 strong Maltese community were addressed by Dr Anton Buttigieg, President of the Republic of Malta and the Acting High Commissioner for Australia, Mr Jeffrey Pretyman. Friends and relatives also exchanged messages. The broadcast, which was relayed via cable to London, then by satellite to Melbourne, was also sent by cable to 2EA, 3EA's sister station in Sydney. It was organised with the co-operation of Xandir Malta, the republic's broadcasting authority, which provided four commentators who reported on the festivities, brass bands, music and marches, from several vantage points. "It was a fantastic experience," Dr Abela said. "We had people ringing us throughout the broadcast to say that they came from Hamrun and that they were enjoying parties and barbecues to join in the celebrations." [Text] [Melbourne THE AGE (GREEN GUIDE) in English 13 Aug 81 p 1]

CSO: 5500/7548

INFORMATION MINISTER: WEST MONOPOLIZES MEDIA

Bombay THE TIMES OF INDIA in English 1 Sep 81 p 15

[Text]

NEW DELHI, August 31 (UNI).

THE Union minister of information and broadcasting, Mr. Vasant Sathe yesterday said the special responsibility of India, as a third world country, to foster co-operation and closer relations with non-aligned countries in the field of information and mass communication.

Addressing a training camp organised by the All India Youth Congress (I) here, Mr. Sathe said that the Western press monopolises international information media and modern communication technology.

Even the news about our neighbours were received through Western news agencies, which, to foster their own needs, concentrated on conflicts, strife and calamities in the region.

Mr. Sathe said the information gap had led to cultural and economic isolation for these countries, which otherwise had centuries old cultural ties.

"Apart from affecting our relations with like-minded countries, the media invasion from the West is eroding even our cultural and social values. We have made efforts to correct this imbalance in the flow of information. The non-aligned news agency pool was created to expand co-operation among third world countries in the field of information and mass communication. The pool, I am glad to say, has come a long way since the idea was first mooted at the Lima conference of non-aligned foreign ministers in January 1975," he added.

The minister said the pool had now grown into an effective co-operative exchange arrangement between the news organisations of more than 70 sovereign countries, spanning Asia, Africa and Latin America.

But despite this progress, Mr. Sathe said, the problem continued to be serious. As recently as in February this year the foreign ministers of the non-aligned countries, who met here, struck a note of warning in their declaration, taking note of "the tendentious media reportage by transnational information agencies and organisations against developing countries and liberation movements," Mr. Sathe pointed out.

They noted that "media of all categories of advanced countries tend to interpret events in and disseminate information on developing and non-aligned countries in a biased and prejudiced manner, which had affected the stability and development of these countries in many respects."

Mr. Sathe said this was a warning which countries like India could afford to "ignore only at our peril."

He said consequent upon the meeting of the inter-governmental council for co-ordination of information among non-aligned countries in Guyana last May, he had already instructed the official media, particularly AIR and Doordarshan, to make greater use of pool copy. He said India had also been playing an active role in international forums and supporting the UNESCO effort for an international information order on the lines of the international economic order.

Mr. Sathe said that without interfering in the affairs of the fourth estate, the government in a developing country like India had several obligations to fulfil in the area of communications if the people's right to knowledge, information and healthy entertainment was to be guaranteed.

He said the government was taking a number of measures to ensure that the freedom for the press did not result in freedom for the big at the cost of the small. The yardstick, he explained, was not personal profit but social gain.

CSO: 5500/7191

COMMUNICATIONS MINISTER SPEAKS IN RAJYA SABHA

Calcutta THE STATESMAN in English 25 Aug 81 p 12

[Text] NEW DELHI, Aug. 24.—The Government gave two assurances in the Rajya Sabha today—the Telephone Department would be able to give a telephone connexion on demand by 1990 in Delhi, and the present waiting list of 77,000 in the Capital would be cleared by September 1984.

The Minister for Communications, Mr C. M. Stephen, told the House during question hour that there were 9,112 applicants on the waiting list for telephones under the "Own Your Telephone" Scheme in the Capital on July 1, 1981. The Delhi Telephones were expected to commission nearly 10,000 new connexions during 1981-82, after the expansion of different exchanges.

The existing waiting list was likely to be cleared by 1983-84, "except in a few pockets". Besides, production of 200,000 additional cross bar connexions and the completion of two electronic telephone exchanges by 1985 would provide for half-a-million connexions.

Global tenders for electronics and digital-type equipment for the new exchanges had been invited and contracts signed. Construction of buildings for them had already started and installations would commence soon.

Mr Stephen hoped that by 1984, the Delhi Telephones Department would have over 30,000 surplus connexions. But the demand was also expected to increase, resulting in a fresh waiting list.

Replying to Mr Rafiq Zakaria (Cong-I), the Minister said that since he took over the Department, the old practice of members of the Telephone Advisory Committee giving telephone connexions on discretion to particular categories of applicants had been discontinued. But a few connexions, whenever sanctioned to such categories, were given by the committee on a secret ballot system. He denied any knowledge of a money racket involved in the sanction of connexions by members of the Telephone Advisory Committee, as alleged by Mr Zakaria.

Even though Mr Stephen gave information in details, the erratic telephone system figured while he was replying. According to Mrs Hamida Habibullah (Cong-I), a "decorative, lovely and prestigious showpiece" was not giving the necessary service at all. Others promptly joined her and complained about the unreliable telephone service.

Mr Piloo Mody (Janata) asked the Chairman "to note" that the Minister was promising "only instruments" and not the service. "The telephone service is better", Mr Stephen said in a firm tone. That was why people were demanding more telephones. Mr B. Satyanarayana Reddy (Lok Dal) disputed the Minister's claim that the telephone service was now "better".

At this stage, the Chairman told Mr Reddy: "In the question hour, you are supposed to elicit information. But you are giving information which is known to the House". Laughter greeted the Chair's observation.

MAIL INTERCEPTION

Earlier, the alleged interception of Opposition members' mail figured when the Minister was replying on the postal racket.

The issue was raised by Mr J. P. Mathur (BJP), who alleged that the police had been "tampering with" their mail, in spite of the reported withdrawal of an order issued by the Posts and Telegraphs authorities.

The Minister said that he would look into the matter if any specific case of interception was brought to his notice. At the same time, he told the House that Section 26 of the Postal Act provided for interception, for which the P & T Department need not give any special orders. Nor could he confirm or deny whether such an order had been withdrawn. He did not give any assurance to Mrs Purabi Mukhopadhyaya (Cong-U), who wanted to know whether the mail of the Opposition members was safe.

There was no clear reply by Mr Stephen when Mr Ladli Mohan Nigam (Lok Dal) pointed out that Section 26 of the Postal Act was valid for the Emergency and asked "whether the Emergency is here". Whatever was being done had the command of law, the Minister said. If the police were entering the post offices under the law, he could not help it, he told Mr J. P. Mathur frankly.

When Mr Mathur persisted with his supplementary, the Chairman said that it was a "loaded question ... It's like asking somebody—have you stopped beating your wife?" The Minister also thought that Mr Mathur's supplementary was "too hypothetical".

CSO: 5500/7186

LAKE WATER QUALITY STUDIED BY REMOTE SENSING

Bombay THE TIMES OF INDIA in English 27 Aug 81 p 12

[Article by Gopal Misra]

[Text] AHMEDABAD, August 26.

AN ambitious programme of integrating communication, telemetry, computer-based remote monitoring systems for managing the offshore oil production and its distribution is being implemented by the space applications centre and the post and telegraph department with the communication satellite, APPLE.

The programme code named "TITAN" will be fully operative by the end of April next year when the INSAT satellite would be launched from NASA (USA).

TITAN will enable the ONGC to supervise unmanned oil well platforms from the Central Bombay High north platform. It will cover 30 additional platforms in the Bombay High and Bassein offshore oil fields, the Gujarat pipeline project of ONGC and other pipeline projects of the Indian Oil Corporation (IOC).

A large antenna for the on-shore and offshore terminals of the INSAT-based satellite communication link between Bombay High and the shore oil terminal at Uran was being completed. The first phase of TITAN project for the five oil well platforms had already been completed. The second phase of a further 20 oil well platforms would be completed by the end of next year.

According to official sources, it had become necessary to go in for highly sophisticated system due to the growing needs of ONGC. ONGC wanted to fit remote well platforms which did not require either engineers on board to man them or any rotating machinery-based power source, such as diesel generators.

The energy requirements of such platforms was to be met by photovoltaic power sources. A public sector company, Central Electronics Ltd., had developed indigenously photo-voltaic power sources. They would be fitted to platforms from No. 12 onwards.

The TITAN project required the import of some equipment. However, the problem was partly solved by the Electronics Corporation of India Ltd. (ECIL). A number of items were produced in the country, though some of them had to be imported.

It was also found that the requirement of ONGC had many common features with the requirement of the Indian Oil Corporation for tele-supervisory control for the Salaya-Viramgam-Mathura oil pipeline. The electronics department had succeeded in co-ordinating the two requirements. A tie-up was successfully made involving ONGC, IOC and ECIL.

The country would spend over Rs. 50 crores in organising the remote control system necessary for the oil industry. A co-ordination machinery was being set up involving the high officials of ONGC, IOC, post and telegrams, the space scientists and representatives of the electronics department for executing the project.

CSO: 5500/7188

SATELLITE TO AID ONGC MANAGEMENT, COMMUNICATIONS

Bombay THE TIMES OF INDIA in English 27 Aug 81 p 23

[Text]

NEW DELHI, August 26.

THE national remote sensing agency (NRSA) has successfully mapped water quality through aerial surveys using remote sensing technology.

The project covered organic enrichment of water hyacinth-infested Husainsagar lake in Hyderabad and industrial pollution in Godavari river upstream of Rajahmundry town. The investigation covering a period of two-and-a half years was sponsored by the Indian Space Research Organisation (ISRO).

The exploitation of scarce available water resources is frequently accompanied by adverse environmental and socio-economic effects. Adequate and timely environmental information is not available to the pollution prevention and control agencies which hinders the implementation of appropriate conservation and management practices. Remote sensing techniques, using sensors fixed to an aircraft, can facilitate the collection of water quality information over large areas.

Controlled laboratory experiments and boat-level studies involving spectral measurements and simultaneous collection of water samples were conducted first to establish the feasibility of remote sensing of water quality information. Successful results from this phase of the project encouraged NRSA to undertake aerial surveys over two study areas in 1980 and in 1981 using its instrumented aircraft at the time of maximum pollution conditions.

The deteriorating water quality of Husainsagar lake in the heart of Hyderabad city, due to inflow of industrial and other man-made pollutants, was surveyed. Aerial photographs and multispectral digital data from the 11-channel modular multispectral scanner system were obtained and used in conjunction with simultaneously collected water sample data to develop multiple linear regression models on computers.

Computer software programmes were developed to prepare a colour coded map of Husainsagar lake in regard to chloride, chlorophyll, specific conductivity, total suspended and dissolved solids and turbidity. Such water quality maps can help to establish the suitability of water for various uses such as municipal water supply, industry and agriculture.

A similar investigation was conducted over the stretch of the Godavari river above Rajahmundry town where the effluents from the nearby paper mill entered the river system. Aerial surveys helped to generate a colour map of the area to indicate that the paper mill effluent gets diluted and absorbed in the river water before reaching Rajahmundry town.

Such remote sensing surveys will enable the various pollution control agencies in the country to monitor the pollution status of critical areas for taking timely corrective measures.

CSO: 5500/7188

BRIEFS

RURAL TELECOMMUNICATIONS--New Delhi, Aug. 24--The Government is going in for solar and wind power for its telecommunications network in some of the rural areas. Twelve areas have been chosen for providing long-distance public telephones employing multi-access rural radio systems. These are, Nizaubad in Andhra Pradesh, Godhra and Mehsana in Gujarat, Bhind in Madhya Pradesh, Dhulia in Maharashtra, Imphal in the north-east, Kathwal in Haryana, Mirzapur, Pauri and Banda in U.P. and Agartala in Tripura. Of these, Godhra, Mehsana, Bhind, Imphal, Banda and gartala do not have any commercial power supply. Hence, the Government has been compelled to try non-conventional sources of power. These areas would have solar generators or a combination of solar and wind generators. [Text] [Calcutta THE STATESMAN in English 25 Aug 81 p 9]

INDO-SOVIET RADIO LINK--Moscow, August 27 (PTI)--A 700-km. radio bridge across the Pamirs is being established, linking theSoviet Union and India, "Pravda" reported yesterday. The receiving and transmitting stations are in Charar-i-Sharif, 23 km. from Srinagar and near Dushanbe, the capital of the republic of Tajikistan. The tropospheric communication line is a joint Indo-Soviet project. The Electronics Corporation of India manufactured two sets of big antennas while the Soviet Union supplied the design and special equipment. Indian specialists also took part in the construction of the station near Dushanbe. This is the shortest radio link between India and the Soviet Union. [Text] [Bombay THE TIMES OF INDIA in English 28 Aug 81 p 13]

AHMEDABAD TELEVISION CENTER--Ahmedabad, August 29--The Ahmedabad centre of Doordarshan, to be set up at Thaltej, will start functioning within three years. This was stated by Mr. Vasant Sathe, Union minister for information and broadcasting, at a press conference here this evening. The foundation-stone for the centre would be laid in October or November. Mr. Sathe, who arrived here yesterday evening, visited the space application centre this evening. He told newsmen that he had discussed the proposal to hold a press conference through APPLE satellite. Journalists from different centres would be invited to discuss different issues with some Central ministers sitting in Delhi. The proposal was quite feasible and would be finalised soon. The Union minister also said that he intended to reach around 40 per cent of the area through the TV network and with colour TV, "I hope", within the next five to six years. At present, only about 15 per cent area was covered. Replying to a question, he said that the government was not thinking at all to start any language news agency. He was thinking of strengthening the news service of All India Radio and the set-up of the Press Information

Bureau. Mr. Sathe said that he did not advocate the press to be committed "in the sense it is taken" except to the good of the people. Replying to another question about the dissidents in the party set-up in the state, the Union minister said that he believed in total discipline and never talked about dissidents. "Even in Maharashtra, I do not intervene in the dissident activities. I firmly believe in the discipline without which the nation could not progress." He added that the discipline should start first from the party. By and large, the party workers were disciplined. [Text] [Bombay THE TIMES OF INDIA in English 30 Aug 81 p 13]

SECOND SATELLITE LAUNCHING--India's second satellite for earth observation Bhaskara II is to be launched from the Soviet Cosmodrome within the next 3 months. This was indicated by director of the Indian satellite project center Prof U. R. Rao. He was speaking at a 1-day seminar on Apple, India's first communication satellite, in Bangalore today. Professor Rao also said that the life span of Apple is now estimated to be between 18 months and 2 years as against the earlier estimate of 1 year. [Text] [BK181315 Delhi Domestic Service in English 1230 GMT 18 Sep 81]

SATELLITES CAPACITY INCREASE--The capacity of India's two Insat communication satellites will be increased by about 12 per cent. This follows an agreement with the International Telecommunications Satellite Organization in Washington. According to the agreement, India will get 1500 2-way speech channels from the two satellites. It will also get an additional TV distribution channel for each satellite. The agreement also covers radio network and disaster warning services which will be provided by the two satellites. This will help larger use of satellites and save several million dollars. Originally, India had agreed to reduce telecommunication capacity of the two satellites to meet Intelsat's interference criteria. The Indian communication satellite is scheduled to be launched into geostationary orbit in April in 1982 and 1983 from Cape Canaveral. [Text] [BK210932 Delhi Domestic Service in English 0830 GMT 21 Sep 81]

CSO: 5500/2312

JAPAN

BRIEFS

LEASING FACSIMILE TRANSMITTERS—Tokyo Sept 16 KYODO—The Nippon Telegraph and Telephone Public Corporation (NTT) Wednesday began leasing facsimile transmitters and receivers to the general public. The "mini facs" can transmit letters and illustrations on a sheet twice as large as a postcard in one and half minutes using regular telephone circuits, NTT said. The monthly charge for a facsimile with both transmitter and receiver is yen 3,700, and that for the receiving apparatus alone, yen 3,200. Installation costs yen 5,000, it said. NTT said 5,000 purchase inquires have also been received for small facsimiles from shops, realtors, cram schools and others. About 1 million facsimiles are expected to be in use by the 1990s, NTT said. The public corporation has laid circuits between Tokyo and Osaka exclusively for facsimile communications and will expand the network nationwide by March 1988. [Text] [OW161635 Tokyo KYODO in English 1130 GMT 16 Sep 81]

CSO: 5500/2312

INTERNATIONAL DIRECT DIALING FACILITY FOR BIG CITY

Karachi DAWN in English 11 Sep 81 p 6

[Text] Faisalabad, Sept 10--The Pakistan Telephone and Telegraph Department has installed telephone exchanges to provide international direct dialling facilities to subscribers of Karachi, Lahore, Rawalpindi, Quetta and Faisalabad.

Disclosing this at a news conference here today, Mr Daud Ahmad Siddiqui, General Manager, Central Telecommunication Region, Lahore, said the international direct dialling facility would be made available to subscribers of these big cities within two or three months.

He said the department would provide 20,000 new telephone connections in the country during the current fiscal year, out of which over 5,000 telephones would be provided in the Central Telecommunications Region. He said that at present three lakh applications were in the waiting lists throughout the country, including 40,000 in CTR.

He said further that in various parts of the Punjab the Telephone Department provided 7,000 new connections to deserving applicants during the last year. Similarly, the department laid 4,300 new lines during the last year, which involved Rs 86 million.

In reply to a question, Mr Daud Siddiqui said the Telephone Department had formulated a new policy to provide telephone facilities in rural areas of the country. He said that under this scheme the CTR installed 11 small telephone exchanges in rural areas of the Punjab and expanded the existing exchanges in 27 villages, with an expenditure of Rs 16 million. The department also operated 26 public call-offices in rural areas with an expenditure of Rs 77 lakh.

He said adequate expansion in the existing telex system in Sialkot, Gujranwala, Multan, Lahore and Faisalabad was also made during 1980.

Earlier, Mr Daud Ahmad Siddiqui inaugurated 1600-line new telephone exchange on Sargodha Road which would feed the consumers of Sargodha Road, Civil Lines, Chibban Road, Hajiabad and Gulistan Colony. He said the department had already sanctioned 100 new telephones in these areas while 1300 new telephones would be sanctioned within two or three months.

Addressing the audience, he said the Telephone Department would construct a multi-storey building outside Chiniot Bazaar, Faisalabad, to house the existing Telegraph and Telephone Revenue Office.

Mr Mahmood Akhtar, Divisional Engineer (Development), and Mr Fazle Bari, DET, Faisalabad, in their speeches said the new telephone exchange on Sargodha Road was completed in June this year at a cost of Rs 16 million, and the department would construct two or three more new exchanges in Faisalabad for the benefit of the subscribers.

CSO: 5500/4591

BRIEFS

COMMUNICATION SATELLITE PROPOSED--The Pakistan Space and Upper Atmosphere Research Commission [SPURCO] proposes the launching of a multipurpose national satellite at an altitude of 35,800 kilometers above the equator. The SPURCO chairman, in an interview with the Radio Pakistan Karachi representative today, said the satellite would meet on an exclusive basis the telecommunication and television needs of Pakistan. He said the satellite will be fabricated abroad with active participation of SPURCO's scientists and engineers and also launched with the assistance of a selected foreign organization. A number of ground stations, which would also include [word indistinct] stations, will be assembled with the large local component under the advice of SPURCO to make available the facilities provided by the satellite. It is also planned to introduce additional capabilities on the satellite to link with radio stations and for performing scientific studies. [Text] [BK190944 Karachi Domestic Service in English 1700 GMT 18 Sep 81]

CSO: 5500/2312

BRIEFS

SHANGHAI TELECOMMUNICATIONS BUILDING--Shanghai, 16 Sep (XINHUA)--Construction of the Shanghai telecommunications building, China's biggest long-distance project, started on 14 September. The project is scheduled to be completed in 1984. The 120-meter-tall building is going up at the southern end of the Shanghai people's square and will cover 1.47 hectares. The main building will cover a total floor space of 42,000 square meters. Telegram, telephone, fascimile and data communications equipment made in China will be installed. [Text] [Beijing XINHUA in English 0819 GMT 16 Sep 81 OW]

CSO: 5500/4005

BRIEFS

HANOI POST OFFICE TELECOMMUNICATION--The Hanoi post and telegraph office has just completed the building of a radio telecommunication station for use between urban and suburban districts. This wireless system helps accelerate all present work load of the Hanoi office. [BK060749 Hanoi Domestic Service in Vietnamese 1100 GMT 1 Sep 81 BK]

CSO: 5500/2312

BRIEFS

NEW RADIO STATION--Telecommunications technicians of the Cuban Institute of Radio and Television are working on the final details for the dedication--on [date indistinct] October--of Radio Sandino in the municipality of Sandino, Pinar Del Rio Province. Radio Sandino, which will be the third radio station in the area, will have a 0.5 kw power and will be audible at Mantua, Guane and Sandino, it will broadcast its own programs 8 hours daily and the rest of the day it will join Radio Pinar Musical Network. Its broadcasts will be primarily directed to young students of three teams stationed in Sandino. Its dedication will mark the 113th anniversary of the beginning of our struggle for independence. The announcement was made during a ceremony held by provincial party and government officials to honor the Pinar Del Rio press workers on the occasion of the international day of the journalist. [Text] [FL091935 Havana Domestic Service in Spanish 1829 GMT 9 Sep 81 FL]

CSO: 5500/2312

BRIEFS

SATELLITE TRANSMISSION PROJECT--Manama, 19 Sep (GNA)--Tariq 'Abd al-Rahman al-Mu'ayyad, Bahraini information minister and chairman of the Gulf News Agency board of directors, today endorsed the agency's satellite network project for transmission to most Arab and world capitals. In a statement on this occasion al-Mu'ayyad said that the Gulf News Agency's responsibilities in communicating the cultural and humanitarian role of the Arab Gulf countries require it to rely on the latest technology in transmitting news. The Gulf News Agency satellite transmission network will include direct lines for transmitting news to most Arab capitals, Europe, Africa and Asia. The network is expected to come into operation within the next 3 months. [Excerpts] [GF191308 Manama Gulf News Agency in Arabic 1115 GMT 19 Sep 81]

CSO: 5500/2312

IRAN

BRIEFS

'PARS' AGENCY NAME CHANGE--Prime Minister Mahdavi-Kani presided over a cabinet meeting today. At the beginning of the session the Defense Ministry under secretary submitted a report on the situation on the battlefronts. During the session the cabinet changed the name of PARS news agency to the Islamic Republic of Iran News Agency [WAKALAT ANBA' AL-JUMHURIYAH AL-ISLAMIYAH AL-IRANIYAH] in accordance with a proposal from the Ministry of Islamic Guidance and with the cabinet's approval. [Text] [GF151624 Tehran International Service in Arabic 1430 GMT 15 Sep 81]

CSO: 5500/2312

NEW TELEVISION STATION BEGINS BROADCAST

TA131251 Jerusalem Domestic Service in Hebrew 1100 GMT 13 Sep 81

[From the Midday Newsreel]

[Text] Initial color broadcasts transmitted by the Star of Hope Television Station in southern Lebanon were well received in the north of the country at the end of last week. This station will move into full program of broadcasts in the coming days and our correspondent, Hayim Hecht, reports its owners emphasize again that they have no connection with hotelier Hayim Schiff.

[Begin recording] At the end of the week the initial broadcasts of the Star of Hope Television Station owned by U.S. Priest George Otis were transmitted from the broadcasting van located in Haddad's territory not far from the Israeli northern border. The color broadcasts which were received well in the northern settlements included programs for children, Westerners and documentaries on religion. Fully recognizing the sensitivity of the religious issue in Israel, the station personnel have so far refrained from preaching and settled for films on the life of Moses, for example.

The station personnel are currently dealing with putting up additional boosters which will increase the range of their transmissions. At this stage the broadcasts are transmitted with the aid of transmitters in Marun al-Ra's, in the (Nabi 'Awadah) mountain area opposite Misgav 'am.

At the end of the week a light Centurion-type plane called the Wings of Hope [last three words in English] arrived in Israel. The plane will serve the television station for the transfer of films and reports from the center of Israel and, when necessary, will be used for the transfer of wounded people from southern Lebanon to Israel's hospitals. The words--pray for peace--are conspicuous on the plane. The station's owners intend to overhaul an old British landing strip north of Metulla for the use of the plane. The pilot of the Wings of Hope is Jerry (Tubayas). (Tubayas) was one of the pilots of the White House Boeing planes intended for use as a flying command room in case of emergency.

The representatives of George Otis, the station's owner, repeat their denial of any connection to hotelier Hayim Schiff. [end recording]

CSO: 4323/65

BRIEFS

MICROWAVE PROJECT--San'a', 19 Sep (GNA)--Implementation of the microwave project for communications among al-Hudaydah, al-Mukha and Ta'izz--which is being carried out within the framework of the Saudi-YAR Coordination Council--begins on 1 November. 'Abdallah al-Kayusi, director of telecommunications in the YAR, said that the project, which is being implemented in cooperation with the Saudi projects bureau in the YAR, will safeguard an important part of the YAR's internal and external communications. Referring to the regional microwave telecommunications project that will link Saudi Arabia, the YAR, the PDRY, Djibouti and Somalia and will safeguard telephone communications and radio and television transmissions, he said the project was the fruit of consultations between Saudi and YAR officials. Al-Kayusi said that the most appropriate tenders from international companies to implement the regional microwave telecommunications project will be selected. He added that the project will be completed in early 1984. [GF191345 Manama Gulf News Agency in Arabic 1202 GMT 19 Sep 81 GF]

CSO: 5500/2312

BRIEFS

TV IN KANO STATE--The Kano State Government has initialled a 5.5 million naira contract for the establishment of a television station. The commissioner for home affairs and information, Alhaji Mahmud Othman, said the television station will publicize government activities in the state. [Text] [AB140904 Lagos Domestic Service in English 0600 GMT 14 Sep 81]

IMO TELEVISION STATION--The NIGERIAN STANDARD understands that the Imo State Television Station is beginning transmission on 1 October this year. The paper learns the state governor announced that experts are expected in the state capital to install the equipment preparatory for the take-off. [Excerpt] [AB151945 Lagos International Service in English 1630 GMT 15 Sep 81]

CSO: 5500/5077

INTERNATIONAL AFFAIRS

SWEDEN PRESENTS NEW PLAN FOR NORDSAT

Stockholm DAGENS NYHETER in Swedish 26 Aug 81 p 16

[Article by Per Sjogren: "Swedish Proposal on Nordsat--Three Satellites Will Provide Five Channels"]

[Text] DAGENS NYHETER has learned that Sweden has put forward a new proposal on Nordsat, the Nordic TV satellite. In the proposal, it is suggested that three TV satellites be sent up, with room for three channels at first, and up to five TV channels later on. Furthermore, the possibility of using them for other telecommunications services when they become technically and economically possible is to be kept open.

The proposal was put forward Monday at a meeting in Stockholm of the committee of the Nordic Council of Ministers which has taken on the job of trying to put a proposal together. The committee consists of state secretaries.

The reaction of the other countries at that meeting amounted to taking a wait-and-see attitude. The question is to be discussed on the ministerial level in Copenhagen on 7 September 1981. Where Sweden is concerned, it will be the Ministers of Education, Industry and Communications who will be involved. It is possible that they will be able to come to a decision in late November.

The latest chapter in the long history of Nordsat had its beginning in November 1980. At that time, the Council of Ministers decided to rethink the entire procedure they had been following up until then. They were afraid to come to a decision for or against Nordsat and then have to find out how such a decision could be implemented in a practical way. Instead, the council decided to start with a discussion of the concrete questions and not make a decision for or against the project. A committee of state secretaries got the job of working on the questions.

Not much has happened up to the present. In a quiet way, the Swedish party worked on the outline of a program of action which was put forward on Monday. Other participants were not prepared for the proposal, and that was the reason for the wait-and-see reaction.

The former Nordsat committee's maximum proposal was to the effect that all TV programs in Denmark, Finland, Norway and Sweden should also be broadcast to the neighboring countries. The Faroe Islands, Iceland and Greenland would have more limited collaboration.

With two channels in both Finland and Sweden and one in Denmark and one in Norway, there would be six TV programs simultaneously in each country.

"Electronic Mail" Service

The new outline of an action program contains the following points:

—A general agreement on telecommunications satellites would be signed by the Nordic countries.

—Three telecommunications satellites would be sent up.

—As a beginning, three Nordic TV programs would be broadcast by way of the three satellites. Later on, that would be increased to five programs. The apportionment among the Nordic countries can be discussed.

—The three TV satellites would also be used for other telecommunications services.

—According to the national Swedish space corporation, it may be technically possible and economically profitable to use TV satellites to transmit other data in text and pictures by "electronic mail". That could be of interest to industry and the authorities.

Research in that field is going on in Sweden and other countries, but it is not yet clear whether other fields of application will make use of television.

Swedish industry is clearly interested in a new variant of Nordsat. In that category are enterprises like LM Ericsson, Saab-Scania and Standard Radio. Industry in Norway and Finland is also interested, while interest in Denmark is believed to be less, according to Swedish assessment of the situation.

There is a chance that, at the meeting of ministers in Copenhagen two weeks from now, the committee of state secretaries will find that the Swedish proposal means that we are on the right path. Until then, the other governments have time to settle the matter.

9266
CSO: 5500/2297

NORDIC COUNTRIES DIFFER ON NORDSAT AS DEADLINE NEARS

Stockholm DAGENS NYHETER in Swedish 26 Aug 81 p 16

[Article by Per Sjogren: "Space Available for a Decision on Nordsat is Shrinking"]

[Text] The subject of Nordsat is one of the most thoroughly discussed subjects connected with Nordic cooperation. After some initial hesitation, Norway was for Nordsat. Opinion in Denmark was also chiefly favorable.

In both of those countries, Nordsat in some form would mean that the cost of a second TV channel of their own would be saved. At present, there is only one channel in each of those countries.

Opinion has been undecided in Finland. One reason for that has to do with language. The majority of the people in Finland have difficulty understanding Swedish and even more difficulty understanding Danish and Norwegian. Furthermore, unedited programs from neighboring countries can cause trouble with the Soviet Union. Nordsat would also reach a considerable amount of Soviet territory. On the other hand, Finnish TV by way of Nordsat would give speakers of Finnish in Sweden more to choose from.

In Sweden, the Social Democrats and the Center Party have opposed Nordsat, and so have large portions of the culture-policy "establishment." People in radio and television have said quite plainly that if Nordsat becomes a reality they are afraid that they will get smaller allocations for their own activities.

The committee on Nordsat was set up in 1975. It made the following two proposals:

—A comprehensive exchange of TV programs within the Nordic countries, and particularly between Denmark, Finland, Norway and Sweden. Then, on a more restricted basis, with the Faroes, Iceland and Greenland.

—To do that, three satellites would be required. Two would be sent up and one kept in reserve on the ground. The satellites in space would have a life of 7 years.

Industries in the four countries which are most directly affected were interested in Nordsat. They regarded the project as a chance to get into space technology. A vote of "no" to Nordsat was depicted as a big threat. A Nordic industrial group investigated the project and arrived at the conclusion that Saab should become the chief contractor responsible for the satellites.

Little Space

The cost of a satellite system with the launching of two satellites has been calculated at a billion kronor. Additional expenditures for television licenses would amount to several times 10 kronor a year and a central antenna to receive programs via Nordsat would cost a few thousand kronor. In November 1980, the Nordic ministers refused to arrive at a decision on Nordsat. Instead, they decided to investigate the practical questions connected with it. That reminds one somewhat of a fyke net for eels. It is wide at the beginning so that the eels will swim in, but then it shrinks, and finally it is hard to get out, even for the slipperiest eels. If the ministers take the technical road, they will be in something that resembles the eels' situation when they finally reach the "yes" or "no" point in regard to a new version of Nordsat.

Emergency Solution

When there was no Nordic decision on Nordsat in November 1980, the Swedish government decided on a technical emergency solution.

The national Swedish space corporation got the job of developing a Swedish satellite which has received the name of "Tele-X". It will be used in the following areas:

--Data communication--"electronic mail" service for the transmitting of texts, pictures and maps. In its new version, Nordsat may possibly also perform this function.

--Measurements of wave propagation. These are measurements of how radio waves behave in the atmosphere.

--"Trucksat." This is a system of mobile stations on long-distance trucks and busses which operate outside Sweden. It is a type of car radio with a long range.

--Direct television. This is a possible way of distributing TV programs directly to homes. The "Tele-X" and the new Nordsat are also encountered here.

Thus, Nordsat has continued to exist all the time in a reduced form. Now Nordsat will perhaps grow back to full size again.

9266
CSO: 5500/2297

NORDIC COUNTRIES WEIGH NEW SWEDISH PROPOSAL ON SATELLITE

Nordsat Project Still Haunts Us

Helsinki HELSINGIN SANOMAT in Finnish 2 Sep 81 p 25

> [Text] Finland is waiting for more information on Sweden's new proposal.

The joint Nordic radio and television satellite project, Nordsat, which has for some time now been believed to have been dead, has suddenly begun to rattle in its coffin and the matter is once again kindling heated discussion.

Wind has been blown into the sails by the Swedes, who have proposed to the other Nordic countries a consolidation of the original Nordsat and a satellite serving the needs of industry called Tele-X which was designed in Sweden. The project has been referred to as Nordcom or Nordsat II.

Finland Waiting for Details

The Finnish Ministry of Transportation, which together with the Ministry of Education and Trade and Industry Ministry has familiarized itself with the satellite issue, was still waiting for a detailed report from Sweden on Tuesday.

The Ministry of Transportation announced that the Swedes' new overture came as somewhat of a surprise but that it did not want to say anything about the matter until it is carefully gone into.

Officially, Nordcom or Nordsat II will be investigated in Copenhagen at the Council of Ministers conference on 7 September. Finns participating in the conference will be Transportation Minister Veikko Saarto (Communist), Education Ministers Kalevi Kivisto (People's Democrat) and Par Stenback (Swedish People's Party) and Trade and Industry Minister Pirkko Tyolajarvi (Social Democrat).

Realistic Alternative

If it were realised, the original Nordsat project would mean that all the television and radio programs of all the Nordic countries could be seen and heard in each Nordic country as direct transmissions.

The project, which was officially investigated in the early 1970's, has since then been dragging along during every Nordic Council conference and between conferences the matter has been discussed by government ministers as well as and especially by officials.

The communications industry has also been deeply involved as a behind-the-scenes influence and it is suspected that the Swedish electronics industry is the real father of the Swedes' new idea.

In the opinion of Finnish experts, Nordcom or Nordsat II would seem to be a considerably more realistic alternative than Nordsat since, in addition to ordinary citizens, Nordcom would especially serve industry throughout the North.

The basis for the Nordcom project is the Swedes' so-called Tele-X satellite project, which was designed solely to serve the communication needs of industry.

The plan is now to combine television and radio services with the Tele-X system within a framework that is considerably more unassuming than that of the original Nordsat.

At Least Five Channels

Secretary of State Ulf W. Lundin of the Swedish Ministry of Education has publicly assumed that the system would be gradually developed so that Denmark, Sweden, Norway and Finland would during the initial phase get to use at least three channels and — as a new feature — Iceland, Greenland and the Faeroe Islands from two to three channels. In the final form the new satellites would transmit programs via at least five channels.

An essential difference in the new system by comparison with Nordsat would be the fact that, aside from certain exceptions, programs would not be viewed directly; rather they would be chosen in about the same way as they now are within the framework of the "Nordic Vision" program exchange system.

Objections to Direct Transmissions

In addition to the costs incurred by Nordsat, it is precisely the question of whether programs are worth seeing as direct transmissions that has raised more vehement objections.

It is generally feared that above all an oversupply of serial films and other entertainment programs would bury all those good intentions whereby Nordsat would first of all act as a factor that would culturally unify the Nordic countries.

Mixed and Expectant Reception in Sweden

Helsinki HELSINGIN SANOMAT in Finnish 2 Sep 81 p 25

[Article by Erkki Pennanen]

[Text] Stockholm (HS)—The Swedish Government's new curtailed Nordsat alternative has gotten a mixed and expectant initial reception in Sweden. Nordsat's defenders speak of a rather bad watering down of the original project, whereas its critics claim that their criticisms also apply to the new proposal.

The Social Democrats and most of the Center Party, that is, a parliamentary majority, are against Nordsat. The revised Nordsat model, which originated in the offices of those officials who have been investigating Nordsat, is also an attempt to get these opponents to agree to a compromise which at the same time might be acceptable as well to the other Nordic countries.

The Social Democrats and the Center Party wing that has constantly opposed it have not rushed to reject the proposal outright.

Questionable Cultural Investment

In Sweden Nordsat supporters have also pointed to its questionableness as an investment in a common Nordic cultural policy, aside from the high costs involved.

From the expanding supply of programs viewers would probably choose foreign serial films, time-killers, sports and other programs that do not have much to do with common Nordic culture.

Nordsat critics regard the fact that in the new proposal it is assumed that programs will be preselected, thus weeding out non-Nordic subject matter due to the more limited use of satellite channels, as a definite improvement.

The Social Democrats have been prepared to support a pure television-service satellite, Tele-X, for reasons of industrial policy. Tele-X alone is, however, a considerably cheaper project than the new, curtailed Nordsat.

In the opinion of Nordsat advocates, the new proposal means compromising with the original central principle of a Nordsat, namely, the free viewability of all Nordic country programs. Limiting the number of television channels would lead to a choice of programs controlled by the central management.

In Sweden, however, Nordsat has had to buck such a strong wind that its supporters are ready to agree to any compromise whatsoever in order to keep the entire project from piling up on the rocks.

Tele-X, on which a decision has already been reached and toward which attempts have been made over the past few months to attract the other Nordic countries, would, however, be a solution quite far from the original Nordsat. An exchange of television programs among the Nordic countries via two or three channels would take a back seat to serving industrial policy viewpoints.

Denmark Caught in Crossfire

Despite an originally favorable attitude toward it, Nordsat has recently also been running up against ever more apparent opposition. Most of the members of the Information Policy Committee appointed by the government recently joined those who want to scrap Nordsat.

The growing number of opponents point to the high costs Nordsat would involve. The belief in Nordsat as a factor that would reinforce Nordic solidarity has clearly been shaken, particularly since even before Nordsat EEC-country satellites have been transmitting programs into Danish homes.

A considerable number of Danes can even now watch Swedish television's two channels. In a few years time all of France's, West Germany's and Luxembourg's television programs will be viewable all over Denmark. That is why fewer and fewer people believe that Nordic solidarity can be significantly reinforced with the aid of Nordsat. Instead, other devices are needed.

Only One Channel of Their Own

The Danes so far have only one television channel of their own. They would readily get another one via Nordsat, but most of the members of the Information Policy Committee laid more importance on the construction of a second channel of their own than on Nordsat. This would also permit the development of domestic regional television.

Sweden's new proposal has so far not even been published as a name in Denmark. Since Danish industry is not interested in Sweden's offer of collaboration on Tele-X either, the new proposal probably does not seem to be appealing to it any more than Nordsat does — perhaps the other way round.

Little Notice Paid to Proposal in Norway

Helsinki HELSINGIN SANOMAT in Finnish 2 Sep 81 p 25

[Article by Arne Finborud]

[Text] Oslo—Sweden's proposal for a curtailed Nordsat project was not even noticed in Norway. They do not want to comment on it until it has been investigated in more detailed fashion. This unwillingness to comment on it is also influenced by the election campaign now in progress.

Norway's political parties support the Nordsat project and Norway has constantly brought the subject up at Nordic Council conferences. When Sweden tried to bury the project last year, Norway fought against it.

Last winter in Norway there was lively debate over Nordsat when it was learned that the English television satellite, which is funded through commercials, might aim its telecasts at Norway and that they could be transmitted via cable television.

At that time the representatives of all the parties said that the admittedly expensive Nordsat ought to be realized without resorting to English and continental European commercial satellite telecasts.

Several political parties have felt that the Norwegian Broadcasting Corporation monopoly should be broken, especially as concerns radio. The rightist Conservative Party, which will probably be in a key position when the new government is formed after the elections, has also proposed that the television monopoly be broken and indicated the possibility of resorting to commercial television.

Procurement of its own television satellite, Norsksat, has also been proposed in Norway. This would be under Norwegian control and Norway would itself decide which foreign programs would be included.

In Norway there is only one television channel. There are, however, two radio stations.

For and Against Nordsat

Helsinki HELSINGIN SANOMAT in Finnish 2 Sep 81 p 25

[Text] For almost a decade the big Nordsat battle, which relevantly ended in a victory for opponents of the project, was waged with these weapons:

For:
Cultural unification of the Nordic peoples.
It would be a protective wall against foreign television and radio satellites in the North.
Linguistic minorities (among others Finnish-speaking Swedes and Swedish-speaking Finns) would fall within a better service range.
The communications industry needs orders.
Satellites are coming anyway.
Denmark and Norway would each get a second channel.

Against:
Too expensive.
The Nordic cultural exchange can be promoted more cheaply.
On the contrary, effective service for linguistic minorities might get worse.
An oversupply of entertainment programs could not be prevented.
Its effect on employment would chiefly be felt only in Sweden.

11,466
CSO: 5500/2301

RECENT SUCCESSFUL LAUNCH OF ARIANE ROCKET DISCUSSED

Payload Described

Paris AFP SCIENCES in French 2 Jul 81 pp 14-20

[Text] Kourou--Ariane's payload, or, as the technicians term it, its "LO3 component," included two satellites--Meteosat-2 and APPLE [(Indian) Ariane Passenger Payload Experiment]--and one CAT [Ariane Technological Capsule].

The total weight of these "LO3 passengers," which is 1,635 kg, was made up as follows: CAT, 266 kg; APPLE, 670 kg; and Meteosat-2, 699 kg.

The operational life of these different payloads is: For CAT, 1 hour of technological measurements and 65 hours of supplying trajectory-calculations data; for APPLE, 2 years; and for Meteosat, 3 years (nominal).

CAT's threefold function was to:

--supply measurements on the environment encountered by the Ariane payload during the propelled phase until loss of visibility by its downrange station at Ascension;

--provide assistance in the trajectory calculations, based on VHF interferometry with the Kourou, Pretoria and Wilhelm (FRG) stations, to reconstruct the performance data and characteristics of the transfer orbit;

--initiate ignition commands for the separation of the two satellites.

The Meteosat-2 Satellite

Meteosat-2, which around 18 July should complete its shift that will inject it into its equatorial orbit at 0° longitude, was designed to perform three primary missions:

1) Take image shots every half-hour, in three spectral bands, of the earth's surface and of cloud masses over the European and African continents and part of the Middle East. Resolution is 2.5 km in the optical mode and 5 km in the infrared mode.

It will also gather data on oceanic surface temperatures, wind velocities and directions, water vapor distributions in the upper layers of the troposphere, and radiative diffusivities.

2) Disseminate the images and data produced by the Meteosat system as well as by external means (data-gathering platforms, the American GOES satellite).

3) Collect the data gathered locally by automatic and semiautomatic stations.

Meteosat-2 will handle Europe's contribution to the World Meteorological Watch set up by the OMM [World Meteorological Organization].

Cylindrically shaped, Meteosat-2 measures 3.20 m high, 2.10 m in diameter; its weight at launching was 700 kg including its MAGE [expansion unknown] apogee engine (340 kg).

The satellite is stabilized by rotation at 100 rpm.

Two stations play a fundamental role in the operation of the satellite: The Michelstadt station, near the Darmstadt (FRG) ESOC [European Space Operations Center], and the latter station itself, which performs several functions.

Michelstadt is a data-acquisition, tracking and telemetering station. It is the station that transmits the commands.

Located at Darmstadt is the Operations Control Center, the Data Processing and Referencing Center, and the Meteorological Data Extraction Center.

The PDUS's [Primary Data Using Stations] are equipped with 4-meter-diameter antennas. The SDUS's [Secondary Data Using Stations], of which over 200 are currently in service, receive images in WEFAX format. Antennas 2.5 meters in diameter are adequate for them.

The National Meteorological Service will shortly market the ATMOS radar beacon, which when coupled with a SIGMA-7 station will enable reception of 7 different physical parameters. The system was conceived and developed by the EERM [National Meteorology Studies and Research Facility], which is headed by Mr Adelin Villevielle.

With the market for these beacons expected to be of the order of several hundred by 1990, international competition for it is certain to be quite lively.

PRINCIPAL METEOSAT CONTRACTORS

Spacecraft

Company	Remarks
Spacecraft	
AEROSPATIALE [National Industrial Aerospace Company] (France)	Prime contractor, system integration, tests and cabling studies.
ETCA [Technical Studies and Space Construction Company] (Belgium)	Electric power supply.
MBB [Messerschmitt-Baldow-Blohm] (Germany)	Structure, thermic regulation, solar generator; apogee motor (ABM), ground mechanical equipment.
MSDS [Marconi Space and Defense Systems] (United Kingdom)	Altitude measurement, attitude and orbit control, ground electrical equipment.
Payload	
MATRA [Mechanics, Aviation and Traction Company] (France)	Radiometer.
Selenia (Italy)	Image channel synchronizer, auxiliary power telecommunications for S-band, UHF, VHF antennas.
Siemens (Germany	S-band, UHF repeater.
Ground Equipment	
CIR [Company for Radioelectronics Industry] (Switzerland)	SDUS prototype.
Dornier (Germany)	Data-collection platform prototype.
ICL [International Computers Ltd.] (United Kingdom)	Data-processing center.
Intertechnique (France)	Receiver and demodulator, signal processing (DATTS [Data Acquisition, Tracking, Telemetry System])

[Tabulation continues next page]

Ground Equipment [cont'd]

LCT [sequential programer, equipment supplier] (France)	Data-collecting platform prototype.
MBB (Germany)	Development and integration of Meteosat Control Center; integration of central station.
MSDS (United Kingdom)	Responder for localization of satellite at Kourou.
Plessey (United Kingdom)	Data transmission system between the DATTS station and the Darmstadt data processing center.
SESA [Company for the Study of Automation Systems] (France)	Data processing center software.
Siemens (Germany)	DATTS central data acquisition station antenna.
Societe Lannionaise d'electronique (France)	Integration of the Lannion relay station, PDUS station prototype.

SEP's [European Propellant Company] MAGE Apogee Motor

Fired 16 hours after Ariane's takeoff, the MAGE motor attached to the Meteosat-2 satellite propelled the satellite into its geostationary orbit, completed at an altitude of close to 36,000 km. Three minutes after this firing, and having functioned perfectly for 45 seconds and completed its mission, the motor was jettisoned from the satellite.

The use of this apogee motor constitutes a first for Europe and a brilliant success for the SEP, who has the prime contractorship for this program. This program, in fact, covers the development of more powerful motors, the MAGE IS and MAGE-2, which will be used, respectively, for the MARECS, ECS and TELECOM 1 satellites.

From the industrial standpoint, this program is being developed jointly with the Difesa e Spazio company in Italy and the Man-Neu Technologie company in the FRG.

Utilizing a state of the art technology, the MAGE is the first motor to incorporate a Kevlar-49-wound structure, thermal protection based on EPDM [ethylene-propylene diene monomer] rubber, a solid propellant using a polybutadiene binder, and nozzles strongly composited with Specarb.

The Indian Experimental Telecommunications Satellite APPLE

The forerunner of the Indian telecommunications satellite program, APPLE is the first Indian satellite stabilized about three axes to be placed in geostationary orbit, thanks to an apogee motor developed by the ISRO [Indian Space Research organization] (the Indian CNES [(French) National Center for Space Studies]) as the fourth stage motor of the Indian SLV-3 launcher.

APPLE functioned fully as planned on the satellite's sixth orbit, that is, on the morning of the 22d, and separation operations commenced on schedule, commanded and monitored by the Indian Shar station at Shriharicota.

One of the solar panels did not deploy, but the Indian technicians then succeeded, on 24 June, in stabilizing the satellite in such a manner that the last panel remains constantly facing the sun.

Weighing 380 kg in geostationary orbit, APPLE is to be placed, around mid-July, at a point situated 102° east longitude.

Its operational life is expected to be 2 years and will depend upon its reserve of hydrazine.

Triple Success for AEROSPATIALE

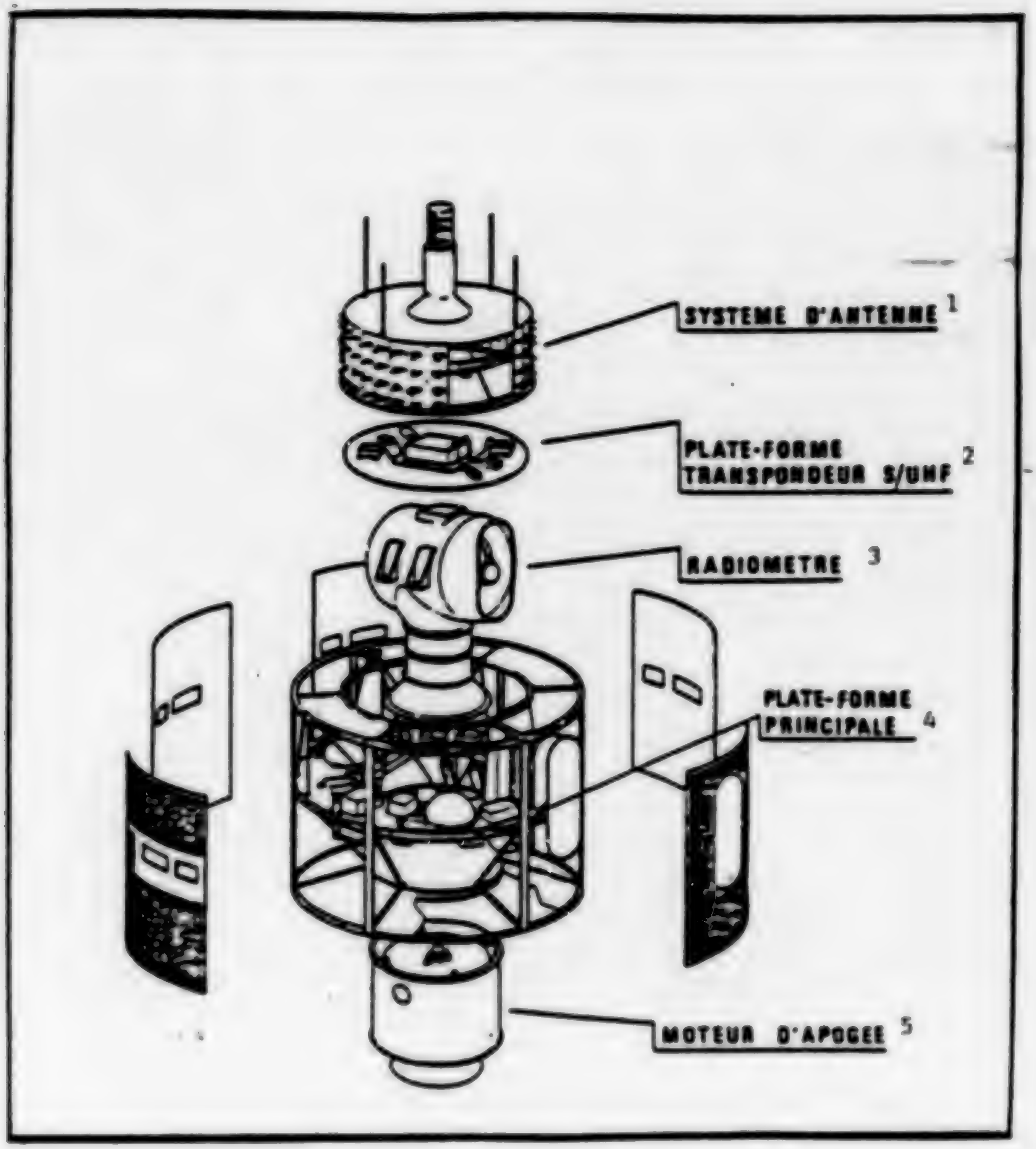
Paris AFP SCIENCES in French 2 Jul 81 pp 21-22

[Text] Paris--The Ariane L-03 launcher brought a triple success to AEROSPATIALE [National Industrial Aerospace Company] as Ariane's industrial architect and stage interfacer, prime contractor for Meteosat, and managing organization and creator of the separation system and of the system for simultaneous injection into orbit of two intermediate-class satellites.

1. Arianne: AEROSPATIALE's mark is visible throughout the spectrum of work done on the Ariane rocket at the company's Mureaux plant and at the Kourou launching center. The role of industrial architect borne by AEROSPATIALE involves the coordination and technical management of the program. Its tasks range from the carrying out of design studies and drawing up of final specifications, to the managing of the development plan, to directing the quality control policy, to conducting the end-to-end testing of the overall launcher. Charged with responsibility for the interfacing of the launcher's three stages, AEROSPATIALE ensures the coherence between the vehicle and the various systems, such as the monitoring system equipment, the operating system equipment and the software.

AEROSPATIALE's functions extend to Kourou, to the rocket's operational phase, in the form of studies specific to each launching, analysis of missions, sequencing of operations, and processing of flight data.

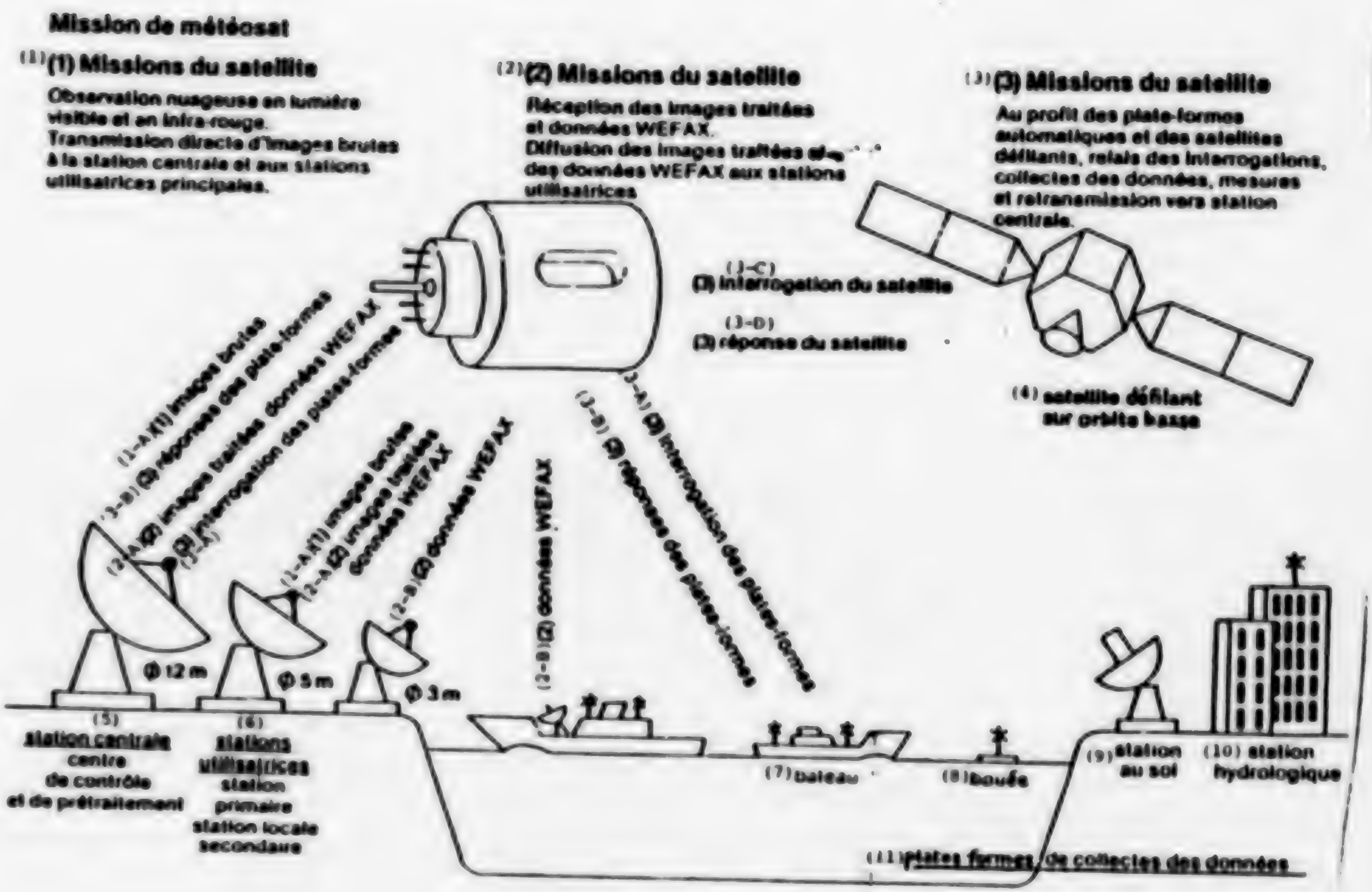
Its role as stage interfacer makes AEROSPATIALE, in effect, the prime contractor of the three stages and of the nose cone, for which this firm specified the architecture and the equipping, and coordinated the development among the European



Meteosat - Cross Section

Key:

1. Antenna system.
2. S and UHF bands transponder platform.
3. Radiometer.
4. Main platform.
5. Apogee motor.


Mission de météosat
(1)(1) Missions du satellite
Observation nuageuse en lumière visible et en infra-rouge.
Transmission directe d'images brutes à la station centrale et aux stations utilisatrices principales.
(2)(2) Missions du satellite
Réception des images traitées et données WEFAX.
Diffusion des images traitées et des données WEFAX aux stations utilisatrices
(3)(3) Missions du satellite
Au profit des plate-formes automatiques et des satellites défilants, relais des interrogations, collectes des données, mesures et retransmission vers station centrale.
(3-C) (3) interrogation du satellite
(3-D) (3) réponse du satellite
(4) satellite défilant sur orbite basse
(1-A)(1) images brutes
(3-B) (3) réponses des plate-formes
(2-A)(2) images traitées données WEFAX
(3) interrogation des plates-formes (3-A)
(1-A)(1) images brutes
(2-A)(2) images traitées données WEFAX
(2-B)(2) données WEFAX
(2-B)(2) données WEFAX
(3-B) (3) réponses des plates-formes
(3-A) (3) interrogation des plates-formes
Φ 12 m
Φ 5 m
Φ 3 m
(5) station centrale centre de contrôle et de prétraitement
(6) stations utilisatrices station primaire station locale secondaire
(7) bateau
(8) bouée
(9) station au sol
(10) station hydrologique
(11) plates formes de collectes des données

Meteosat Mission

[Key on facing page]

Key to Meteosat Missions representation on facing page:

1. Satellite missions:

   Cloud observations in visible and infrared lights:
   Direct transmission of raw images to central
   station and to principal using stations.

   1-A. Raw images.

2. Satellite missions:

   Reception of processed images and WEFAX data.
   Dissemination of processed images and WEFAX data
   to using stations.

   2-A. Processed images, WEFAX data.
   2-B. WEFAX data.

3. Satellite missions:

   For automatic platforms and orbiting satellites:
   Relay of interrogations, collection of data,
   metering and retransmission to central station.

   3-A. Interrogation of platforms.
   3-B. Platform responses.
   3-C. Interrogation of satellite.
   3-D. Satellite response.

4. Orbiting satellite in low orbit.

5. Central station: control and preprocessing center.

6. Using stations: primary station,
   local secondary station.

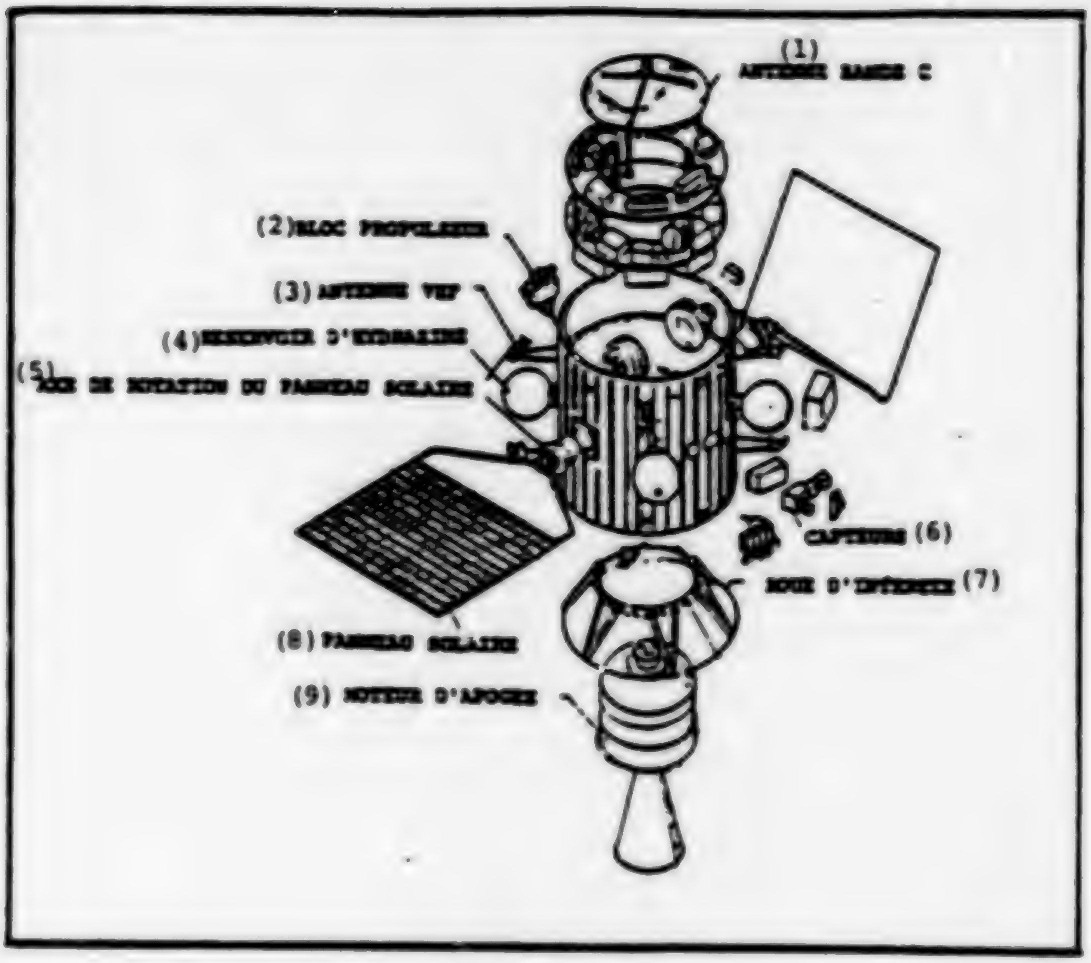
7. Ship.

8. Buoy.

9. Earth station.

10. Hydrologic station.

11. Data-collecting platforms.



APPLE - Cross Section

Key:

1. Band C antenna.
2. Motor module
3. VHF antenna.
4. Hydrazine tank.
5. Solar panel rotation axis.
6. Sensors.
7. Jetevator.
8. Solar panel
9. Apogee motor.

participants in the project. The integration of each of these elements is the responsibility of AEROSPATIALE, with the exception of the second stage, which has been placed under the responsibility of a German industrialist. Aerospatiale also builds the principal elements of the first stage--which is 18 meters high and close to 4 meters in diameter--notably the fuel system and the launcher's array of ignition systems.

2. Meteosat: AEROSPATIALE is the prime contractor for this satellite, which was developed for the ESA [European Space Agency] within the Cosmos consortium framework. In this capacity, AEROSPATIALE provides the complete management of the program, the system design studies, the overall integration, the wiring and the static testing of the satellite.

The satellite's axis was swung into its definitive north-south orientation. The first set of images in the optical and infrared bands will be disseminated this September.

3. Double Launchings: For the L-03 launching, the APPLE [(Indian) Ariane Passenger Payload Experiment] satellite served as a support for Meteosat. The separation system developed by AEROSPATIALE separated Meteosat first. APPLE's separation from the launcher followed.

In future double launchings, the lower satellite will not be able to support the higher one. AEROSPATIALE has therefore designed and developed a standard device--SYLDA [Ariane Double Launch System]--which will standardize this operation, making it very economical to inject intermediate-class satellites (600-800 kg) into orbit. SYLDA will be used for the first time on Ariane No 5 to launch the MARECS [expansion unknown] and SIRIO [expansion unknown] satellites.

MATRA's Role

Paris AFP SCIENCES in French 2 Jul 81 pp 22-23

[Text] Paris--MATRA [Mechanics, Aviation and Traction Company] was chosen by the CNES [National Center for Space Studies] as prime contractor for the design of the Ariane launcher's equipment chamber. This array, located at the top of the third stage, directly supports the satellite payload and contains most of the launcher's electronic and electric equipment units.

e chamber's structure was designed by MATRA to perform two basic functions:

House the on-board electronic and electrical equipment units;

--Provide the necessary mechanical interface between the third stage and the payload, and between the third stage and the payload fairings.

The different units of electrical and electronic equipment mounted in the chamber are grouped in accordance with the following systems:

--attitude guidance and control,

--sequence,

--zone safety,

--telemetry,

--electric power distribution.

The attitude guidance and control system ensures that the launcher's attitude and trajectory will be the required ones in response to the navigational data received and in accordance with the flight plan.

The functions performed by this system therefore include:

--navigation,

--attitude control of the first stage,

--guidance and control of the second stage,

--guidance and control of attitude of the third stage,

--attitude control of the third stage after motor burnout.

Several firms of the Pechiney Ugine Kuhlmann group took part in the construction of the Ariane European satellite launcher: CEFILAC [Company for the Extrusion of Metals and Joints] Joints Fargere, CEGEDUR [General Company for Duralumin and Copper] Pechiney, FORGEAL [Tool and Die of Light Alloys], Le Magnesium Industriel, Manufacture Metallurgique de Tournus, Microfusion, PCUK [expansion unknown].

Aluminum alloys played a determinant role in this system, since they represent a total weight of 6.5 tons, or one-third the empty weight of the rocket. Besides the lightening resulting from their use, these alloys withstand extreme temperatures, fatigue and corrosion; they are easily forged and welded.

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CSO: 5500/2298

PAPER REGRETS DELAY ON NORDSAT DECISION

Helsinki HELSINGIN SANOMAT in Finnish 30 Aug 81 p 2

[Editorial: "Stripped-down Nordsat Model to Be Investigated"]

[Text] After negotiations that have lasted for years now, the Nordic countries have been incapable of reaching a decision on sending a joint television satellite into space. Despite stubborn attempts to bury it, the plan is still alive and the Nordic Council does intend to decide on a possible extension of television cooperation next year in Helsinki.

The Nordsat project has largely been opposed because of the expense. Since a joint decision was not reached, the Swedes recently went their own way by considering the sending of a satellite under Sweden's own power to serve just the needs of their economy. To be sure, opportunities for cooperation have also been offered the other Nordic countries, but so far they have not produced any results.

Against this background it seems quite natural that both projects should now be combined. The Swedes' latest Nordsat proposal includes less television channels than before, but more possibilities for information and news to serve the economy as a new feature. It is apparently easier to market a multifunctional satellite like this to the Nordic countries than one that transmits just television pictures.

While satellite costs can in this way be reduced, the old problems will still be there in the new plan. To some extent they will even be aggravated since limiting the number of channels would obviously force them to choose a program policy. Thus the original idea behind Nordsat would in part be scrapped.

The essential question now is how much a curtailed Nordsat would in practice limit the transmission of programs into a joint network. If the curtailment is considerable, it is hard to see how there would be any culturally and politically decisive advantages in the system in comparison with an ordinary change in programming.

The satellite's other way of providing service, acting as a television information link, may, on the other hand, be worth considering. The need for this can only be disputed by showing that conventional information transmission devices are more advantageous and better-adapted to the situation. Business firms have really demonstrated interest in this kind of service, so the extent of the need for same should be looked into.

The importance of the Nordic satellite project for electronics firms cannot, on the other hand, be underestimated. There is an obvious need for the development of space technology since that field can in future provide many jobs. The question now is whether Nordic companies are capable of maintaining the required level of information and ability. In this sense realization of the Nordsat project would be a noticeable step forward.

11,466
CSO: 5500/2301

FIRM TO PARTICIPATE IN COMMUNICATIONS SATELLITE PROJECT

Oslo NORGES HANDELS OG SJOFARTSTIDENDE in Nowegian 25 Aug 81

[Interveiw with O. Aanensen by Frank Andersen: "Electric Bureau to Participate in Nordic Satellite Project"]

> [Text] The Norwegian firm Electric Bureau is to participate in the telecommunications project Teleeks. The main purpose of the project is to give Northern economics expertise in the use of satellite communications.
>
> As an example may be mentioned banks and bank branches which are to communicate and exchange data rapidly and dependably.
>
> Providing news for newspapers is another example.

The intent is for the rapid communication industry in our part of the world to equal that of other industrialized countries, says Technical Director O. Aanensen of Electric Bureau to NORGES HANDELS OG SJOFARTSTIDENDE.

The project was initiated by Swedish industrial interests, with Saab and L. M. Ericsson in the forefront. "They are strongly engaged in the space sector, as is Electric Bureau (EB). This makes cooperation very interesting. We would like to be included in the so-called definition phase," says Aanensen.

"With our experience in both traditional field and advanced satellite communications we think we have a good foundation. The EB has gone far in the development and sale of small satellite installations for maritime use. Thus far we have sold 130 such small satellite stations for use in ships and ashore. In the cooperation now seeming to be developing we can bring experience and know-how from the ships ashore. Simple and inexpensive satellite terminals and small earth stations may revolutionize a number of communications possibilities. Electric Bureau can enter the field with deliveries of such units to industries in industrialized countries, and we see great opportunities for exports to so-called rural districts, thinly populated areas in the developing countries. These are unique opportunities for Norwegian industry."

[Question] When can such a project be started?

[Answer] The definition phase is imminent, and it is calculated that it can be completed in the early summer of 1982. Among other things, it will include studies of the opportunities in industry, the communications network, the Telecommunications Agency, which would benefit our experts through the development of a satellite system with the mentioned areas of applicability.

[Question] Will you have opportunities in the project itself as well?

[Asnwer] Naturally, we should like to assume so. With our expertise and experience we should have much to contribute to the project, something we should like to demonstrate during the definition phase.

[Question] Discussions are under way among the Nordic countries about joint television transmissions. Is this part of the same effort?

[Answer] At the present time the Nordsat negotiations are at a standstill, and what we are interested in is perhaps something aside from this. Nevertheless, we are interested in putting our experience and knowledge at the disposal of TV transmissions, but this is not an important matter to us. What is important to us is communications opportunities for the economy. However, while participating in the definition phase for Teleeks we should like to work with parallel possibilities, in the sense that we are open to the TV aspect as well.

[Question] You mentioned the authorities in the Teleeks connection. Who will make the decision on Norwegian and EB participation in the project?

[Answer] That decision must be made in the industry and communications ministries, for it is a matter of industrial policy decisions. We in EB are ready to go along, and have informed the industry ministry to that effect. In any case, we hope that the decision on Norwegian participation in the Nordic project will be made some time in September.

11,256
CSO: 5500/2300

BRIEFS

TEXT TELEVISION TO START--The NRK will some time next year start test broadcasting of text television, said Church and Education Minister Forde in Trondheim yesterday. Einar Forde said that new technical equipment to be put to use by NRK will involve significantly better television for the deaf and hard of hearing. About 400,000 Norwegians are included in this category. The new system to be put to use by NRK allows viewers themselves to decide whether they wish programs texted. Relatively little additional equipment is required for taking advantage of the offer. [Text] [Oslo AFTENPOSTEN in Norwegian 31 Aug 81 p 7] 11,256

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